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ANNEXES TO INTERNATIONAL
PRELIMINARY EXAMINATION REPORT
PCT/EP2005/004192 DATED FEBRUARY
16, 2006

Claims

1. A tool for metal-cutting machining of bore surfaces with at least one cutter insert (1s, 1's; 1u, 1'u, 1''u) which is let into the end face (41) of the tool (10) and at least one cutter insert (1s, 1's; 1u, 1'u, 1''u) which is let into the circumferential face (43) of the tool (10), said cutter inserts (1s, 1's; 1u, 1'u, 1''u) having at least two geometrically defined cutting edges, one of the cutting edges of the cutter inserts being embodied as a roughing cutting edge (17, 17') and the other cutting edge of the cutter inserts being embodied as a finishing cutting edge (19, 19'), and the cutting edges being arranged at the two ends of a side edge (15, 15') of the cutter inserts, **characterized** in that the at least one cutter insert which is let into the end side (41) of the tool (10) and is essentially tangential thereto serves for finish machining or roughing machining and the at least one cutter insert which is let into the circumferential face (43) of the tool (10) essentially tangentially thereto serves for roughing machining or finish machining.

2. The tool as claimed in claim 1, **characterized** in that the at least one cutter insert has a front side (3) which during the metal-cutting machining of a workpiece points in the direction of rotation, and an upper side (5) which in the mounted state faces away

from the base body of the tool (10), in that the cutting edges which are active in the mounted state are arranged on the side edge (15, 15') of the cutter insert which forms the intersection line of the front side (3) and of the upper side (5).

3. The tool as claimed in claim 1 or 2, **characterized** in that the at least one cutter insert is embodied as a disposable cutting tool tip, and in that every two cutting edges which lie diagonally opposite one another on the front side (3) are the same, and in that the cutting edges alternate along a sequence of adjacent side edges.

4. The tool as claimed in one of the preceding claims, **characterized** in that the at least one cutter insert has a rear side (9) which lies opposite the front side (3), extends parallel thereto and is embodied in an identical way to the front side (3).

5. The tool as claimed in one of the preceding claims, **characterized** in that the cutter inserts of a tool (10) are identical.

6. The tool as claimed in one of the preceding claims, **characterized** in that a setting device is provided which interacts with the at least one cutting edge in the end side (41) of the tool (10).

7. The tool as claimed in one of the preceding claims, **characterized** in that the cutter insert which serves for roughing machining moves in advance of the cutter insert which serves for finish machining - viewed in the axial direction and in the advancing direction.

8. The tool as claimed in one of the preceding claims, **characterized** in that the cutter inserts which are let into the circumferential face (43) of the tool (10) are inclined - viewed in the longitudinal direction of the tool (10) - with the roughing cutting edge (17') which serves for roughing machining projecting beyond the circumferential face (43) of the tool (10), and the finishing cutting edge (19) which is provided on the same side edge (15') and serves for finish machining being set back with respect to the circumferential face (43).

9. The tool as claimed in one of the preceding claims, **characterized** in that the cutter inserts which are let into the circumferential face (43) of the tool (10) are inclined - viewed transversely with respect to the longitudinal direction of the tool (10) - with the roughing cutting edge (17'), which serves for roughing machining, of the front side (3) projecting further beyond the circumferential face (43) than the finishing

cutting edge (19), which lags behind the roughing cutting edge (17) and serves for finish machining, of the rear side (9), said finishing cutting edge (19) being arranged, like the roughing cutting edge (17'), in the region of the side face (13) of the cutter insert (1).

10. The tool as claimed in one of the preceding claims, **characterized** in that two cutter inserts which lie in pairs opposite one another are provided, two in the end face (41) and two in the circumferential face (43).

11. The tool as claimed in one of the preceding claims, **characterized** in that three cutter inserts, preferably arranged at equal distances from one another are provided in the circumferential face (43), and in that between every two of said cutter inserts - preferably centrally - a cutter insert is provided in the end face (41).

12. The tool as claimed in one of the preceding claims, **characterized** in that three cutter inserts are provided in the end face (41) and two cutter inserts are provided in the circumferential face (43).

13. The tool as claimed in one of the preceding claims, **characterized** in that one cutter insert is

provided in the end face (41) and four cutter inserts are provided in the circumferential face (43).

14. The tool as claimed in one of the preceding claims, **characterized** in that the at least one cutter insert 1s which is inserted into the end face (41) is tilted about an axis which is on the center point of the side faces (11, 13) and/or is tilted about an axis which perpendicularly from the center point of the front side (3) and rear side (9).

15. The tool as claimed in one of the preceding claims, **characterized** by at least one guide bar which is inserted into the circumferential face (43).

16. The tool as claimed in one of the preceding claims, **characterized** in that in each case a guide bar is provided between two cutter inserts which are inserted into the end face or circumferential face.